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From: Jerry Jones

To: Carolyn Thompson

Re: ______

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U.S. Army Corps of Engineers, Mobile District

FAX

To: Ms. Carolyn Thompson/EPA Region IV, South Site Management Branch.
Telephone: (404) 562-8896
Fax # (404) 562-8913

From: Jerry D. Jones
Telephone# (334) 690-2725 OR Cell 404-787-0315
Fax # (334) 694-3815
Date: June 20, 2000
No of Pages including this Header: 9

Per you request, information regarding PCB sampling at **Mayo's Bar** on the Coosa River is attached

I will mail you a copy of the full report later this week.

Regards,
Jerry Jones

Darryl Wheeler, Floyd Co. - 706-291-5131
for access

7-8 miles past confluence of 3 rivers.

They can get you a boat to get in the lock.

FOIA EXEMPTION? for the fax cover page only - the exempted pages (Exec Summary) are in the file as a full report already. Thanks CT

1.0 EXECUTIVE SUMMARY

The Mayo's Bar Lock and Dam is a decommissioned l
approximately 7 miles southwest of Rome, Georgia. l
polychlorinated biphenyls (PCBs) into the river have subse
sediment in and adjacent to the lock and dam. CDM Federal Programs Corporation was contracted by the Mobile District of the Army Corps of Engineers (COE) to evaluate the extent of the sediment contamination at the lock and dam.

This evaluation required the collection of sediment samples from approximately 8 to 10 feet below the surface of the water. A floating platform loaded with a vibratory drill rig was utilized to collect the samples. The sediments within the lock boundaries and above the concrete base were between 3 and 10 feet thick. The lock sediments consisted mostly of dark gray to brown, fine grained clayey mud. However, the sediments away from the lock, within the main river channel, consisted mostly of medium to coarse sand and gravel with either little or no fine material. All samples collected were geologically logged, and representative samples were geotechnically analyzed for moisture content and percent passing the #200 sieve.

The sediment contained within the lock and dam is slated for removal during future restoration phases at the lock and dam. Before disposing of the sediment it had to first be tested for PCB concentrations. The regulated waste criteria action level for PCBs is 50 parts per million (ppm) as defined by the Toxic Substance Control Act. PCB analysis of all sediment samples collected within the lock, lock access channels, and the main river channel indicated that no samples contained PCB concentrations above 50 ppm. Total PCB concentrations within the confines of the lock and lock access channels were detected at concentrations ranging from below the detection limit (approximately 0.05 ppm) to 12 ppm. No PCBs were detected within the main river channel.

2.0 INTRODUCTION

CDM Federal Programs Corporation (CDM Federal) was retained by the Mobile District of the Army Corps of Engineers (COE) to collect and analyze alluvial sediment samples at Mayo's Bar Lock and Dam in Floyd County, Georgia. Mayo's Bar Lock and Dam, a lock and stone crib dam, were constructed on the Coosa River between 1910 and 1913. Figure 1 is a sketch of the Mayo's Bar Lock and Dam. The lock and dam are located approximately 8 miles downstream of Rome, Georgia. The facility was abandoned in the 1930s, and Floyd County currently operates the area as a recreational facility. Mayo's Bar Lock and Dam is listed on the National Register of Historic Places.

Floyd County is planning to rehabilitate the lock and stone crib dam with technical assistance provided by the COE. The rehabilitation efforts will include removing sediment from the lock and from areas around the dam. Before disposing of the sediment it had to first be tested for PCB concentrations. The regulated waste criteria action level for PCBs is 50 parts per million (ppm) as defined by the Toxic Substance Control Act. The purpose of this project was to evaluate the physical and selected chemical characteristics of alluvial material accumulated within the chamber of the lock, in the upstream and downstream access lock channels, and adjacent to the dam in the main Coosa River channel. Samples adjacent to the dam were taken both upstream and downstream in the river channel. The following objectives have been achieved during this investigation:

- Collected alluvial sediment samples at 21 sampling locations selected by the COE.
- Analyzed the sediment samples for polychlorinated biphenyls (PCBs).
- Visually examined and classified the sediment retrieved from the sampling activities.

- Collected samples from each representative soil type encountered during the sampling activities and analyzed the samples for geotechnical physical properties: (1) moisture content and (2) percent passing the #200 sieve.

This report includes:

- Analytical data summarized in tables and in the text.
- Interpretation of the data as it relates to the objectives of this project.
- Maps and figures to show the sampling area and the physical location of sediments containing more than 400 parts per billion (ppb) of PCBs.

This investigation has been conducted under the authority of the COE Contract Number DACW01-95-D-0012. CDM Federal prepared and submitted to the COE the Quality Assurance Plan (QAP), Health and Safety Plan, and the Work Plan for this project. The QAP describes the quality control (QC) procedures for all sampling, sample handling and storage, field measurements, laboratory analyses, and data handling. The Health and Safety Plan outlines the safety procedures and protocol followed by CDM Federal and its subcontractors during sample collection and other field activities. The Work Plan includes CDM Federal's plan to complete the objectives of this project, the sampling schedule, and the list of personnel who have worked on this project including their position titles, duties on this project, and qualifications. Work on this assignment was performed in accordance with the CDM Federal *Quality Assurance Manual*, dated March 31, 1995, or the latest revision. Any deviations from any of these documents are noted in this report.

Existing records document PCB releases upstream of Mayo's Bar Lock and Dam. The objective of this project is to evaluate the presence of PCBs in the sediments within the lock and dam areas. The COE selected 21 sampling locations at areas within the lock and adjacent to the dam (Figure 1). A continuous sediment core was collected at each sampling location

from the sediment surface to a maximum depth of 10 feet below the sediment surface. Samples were collected from each core at 2-foot intervals, except at locations that terminated on an odd numbered footage wherein an odd numbered sample was also taken (See Section 4.3.1 for a description of the sample numbering methodology). Each sample was sent to an analytical laboratory, Kiber Environmental Services (Kiber) of Atlanta, Georgia, for PCB analysis. An analysis of the results is provided in Section 5.1. Based on the analytical results, plots of the PCB concentration in relation to depth have been generated. Because the contaminants were limited to the lock area, four cross sections through the lock are included for the detected PCBs (Section 5.0).

Each sediment core has been visually classified and recorded by a geologist. Samples have been collected from each soil type encountered during the investigation and sent to a geotechnical laboratory, GeoTesting Express, for moisture content and percent passing the #200 sieve analysis. Results of the geotechnical testing are provided in Section 5.2.

6.0 DISCUSSION OF RESULTS

Figure 1 is a sketch of the lock and dam with the locations of the sampling zones marked as discussed below.

6.1 Zone 1 - Inside Mayo's Bar Lock

Sample locations MLD-004 through MLD-012 were collected from inside the lock. The depth to the top of the sediments ranged from 8 to 10 feet below the surface of the water. The sampler was able to advance from 5 to 9 feet into the sediment before reaching refusal on the concrete base of the lock. The total depth to the concrete base of the lock was 15 feet except at sampling locations MLD-004 and MLD-005. At these two locations the concrete base was approximately 2 feet deeper than at other locations because they were within a concrete sump for the swing radius of the lock doors.

Generally, the upper 2 to 4 feet of sediment within the lock consisted of dark gray to black, soft, fine-grained silty mud (ML). Locally, from the sediment surface to the base of the lock, the sediments consisted of dark gray to black, firm, fine-grained clayey mud with trace organics (CL). Near the eastern (upstream) end of the lock, the lower 2 feet of sediments consist of medium to dark gray, fine to medium-grained sand (SM) with sand 85% and silt and clay 15%.

Stratification of the various PCB Aroclors is present within the lock. This stratification possibly indicates multiple releases of PCBs into the Coosa River. Generally, deposition of Aroclor 1254 occurs latest and only within the upper 4 feet of sediment. The maximum PCB concentration for Aroclor 1254 (8,000 ppb) within the lock occurs in the 4-foot interval of sample MLD-007. Aroclor 1242 occurs only within the 4- to 6-foot range of sediments, with the highest values generally in the 4-foot range. The maximum PCB concentration for Aroclor 1242 (4,100 ppb) also occurs in the 4-foot interval of sample MLD-007. Aroclor 1260 occurs over the entire section, from 2 feet to 6 feet, with generally the highest concentrations near the

base of the lock. The maximum PCB concentration for Aroclor 1260 (2,100 ppb) within the lock occurs in the 5-foot interval of MLD-007.

Four geotechnical samples were collected from inside the lock. Three of the samples had between 55 and 94% fines. One sample, taken from the fine-grained sand section of MLD-012 near the eastern (upstream) boundary of the lock, contained only 5% fines. The moisture content of the three samples with dominant fines ranged from 40.0 to 55.4%. The one sample with minimal fines contained 21.5% moisture.

6.2 Zone 2 - Below Mayo's Bar Lock

Sample locations MLD-001 through MLD-003 were collected from below (downstream) of the lock within the western lock access channel. The top of the sediments ranged from 4 to 6.5 feet below the surface of the water. The sampler was able to advance from 8.5 to 10 feet into the sediment before either reaching refusal on the concrete base of the lock or reaching the termination depth of 10 feet. The total depth to the concrete base of the lock was 15 feet below the water surface. In general, the samples collected from Zone 2 consisted of dark gray to dark brown, soft, fine-grained silty mud (ML).

Stratification of the various PCB Aroclors is also present below or downstream of the lock. Generally, deposition of Aroclor 1254 occurs latest and only within the upper two feet of sediment. The maximum PCB concentration for Aroclor 1254 (1,400 ppb) within Zone 2 occurs in the 2-foot interval of sample MLD-002. Aroclor 1242 occurs generally within the 4 to 6-foot interval of sediments, with the highest values in the 4-foot interval. The maximum PCB concentration for Aroclor 1242 (1,400 ppb) within Zone 2 occurs in the 4-foot interval of sample MLD-003. Aroclor 1260 occurs within the 4- to 10-foot interval with generally the highest concentrations in the 8- to 10-foot interval. The maximum PCB concentration for Aroclor 1260 (1,800 ppb) within Zone 2 occurs in the 8-foot interval of sample MLD-002.

One geotechnical sample was collected from Zone 2 at location MLD-001. This sample contained 38% fines and had a moisture content of 38.4%.

6.3 Zone 3 - Above Mayo's Bar Lock

Sample locations MLD-013 through MLD-015 were collected from above (upstream of) the lock. In general, these samples consisted of dark gray to dark brown, soft, fine-grained silty mud; however, the bottom 1-foot interval of this zone has scattered large cobbles with gravel. The depth to the top of the sediments below the water surface in Zone 3 ranged from 0 to 12.5 feet. The base of the lock was generally 15 feet below the water surface. The southern half of this section of the lock access channel has been filled in with sediments to above water level.

Only one sample collected in Zone 3 contained detectable concentrations of PCBs. The 2-foot interval of MLD-015 contained 37 ppb of Aroclor 1260.

One geotechnical sample was collected from Zone 3 at location MLD-014. This sample contained 95% fines and had a moisture content of 52.9%.

6.4 Zone 4 - South Side of the Coosa River Above the Dam

In general, samples collected from Zone 4 on the south side of the Coosa River above the dam consisted of medium brown sand and gravel with little to no fines. The depth to the top of the sediments in Zone 4 was 13 feet. The top of the Paleozoic bedrock was generally at 15.5 feet below the water surface. Paleozoic bedrock, which consisted of medium gray-green saprolitic schist, was recovered from MLD-021 at a depth of 2.4 to 2.5 feet below the top of the sediments. None of the samples collected within Zone 4 contained detectable PCBs.

Two geotechnical samples were collected from Zone 4. These two samples contained between 1 and 2% fines and had a moisture content between 11.1 and 12.5%.

6.5 Zone 5 - North Side of the Coosa River Above the Dam

In general, samples collected from Zone 5 on the north side of the Coosa River above the dam consisted of medium brown sand and gravel with little to no fines. The depth to the top of the

sediments in Zone 5 was 12 feet. The top of the Paleozoic bedrock was encountered at 14 to 14.5 feet below the water surface. None of the samples collected within Zone 5 contained detectable PCBs. No geotechnical samples were collected from Zone 5.

6.6 Zone 6 - Below the Dam in the Coosa River

In general, samples collected from Zone 6 below the dam in the Coosa River consisted of medium brown gravel with little to no fines. The depth to the top of the sediments was 9 feet. The top of the Paleozoic bedrock was encountered at 9.3 to 9.5 feet below the water surface. Several attempts were made to collect samples at several locations within approximately 100 feet of the dam with very little success. None of the samples collected from Zone 6 contained PCBs. No geotechnical samples were collected from Zone 6.